Dec. 27, 1960 P. N. SILLASEN ET AL 2,965,985

ROTARY WHIRLING DITCHER

Filed April 22, 1959 2 Sheets-Sheet 1

Fig. 1.

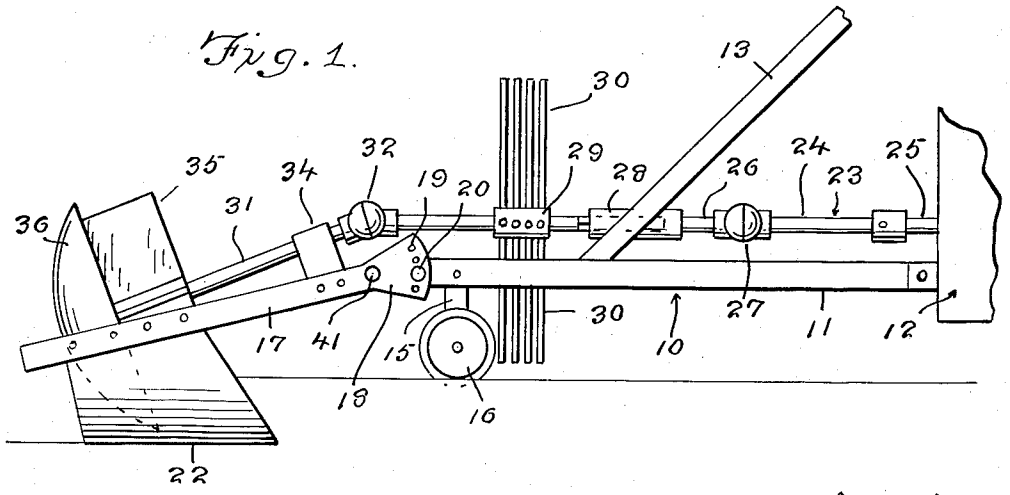
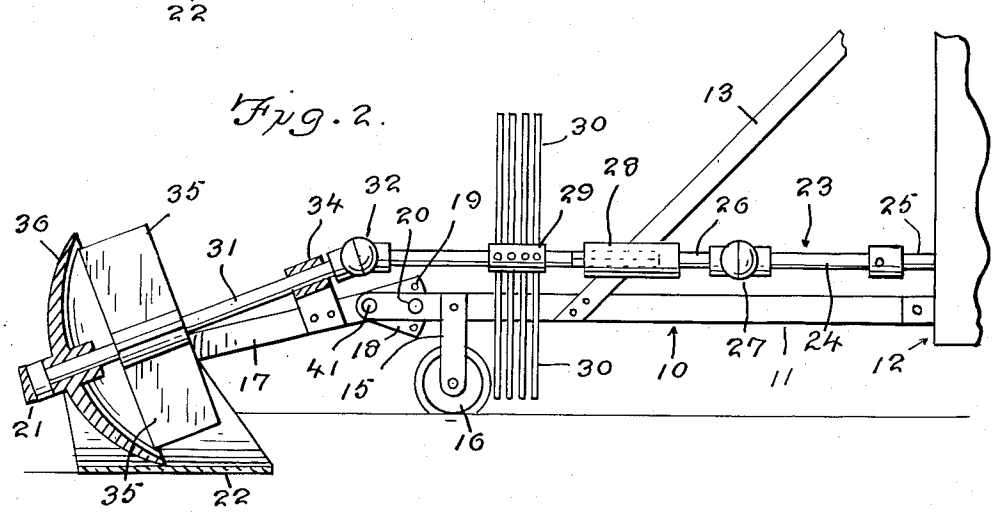


Fig. 2.



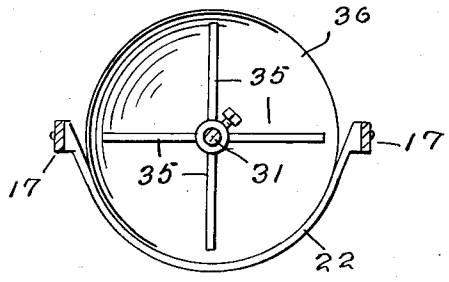


Fig. 4.

INVENTORS.
Peter Nielsen Sillasen
Rosanna Mae Sillasen
BY Victor J. Evans & Co.

ATTORNEYS

Dec. 27, 1960 P. N. SILLASEN ET AL 2,965,985

ROTARY WHIRLING DITCHER

Filed April 22, 1959 2 Sheets-Sheet 2

Fig. 3.

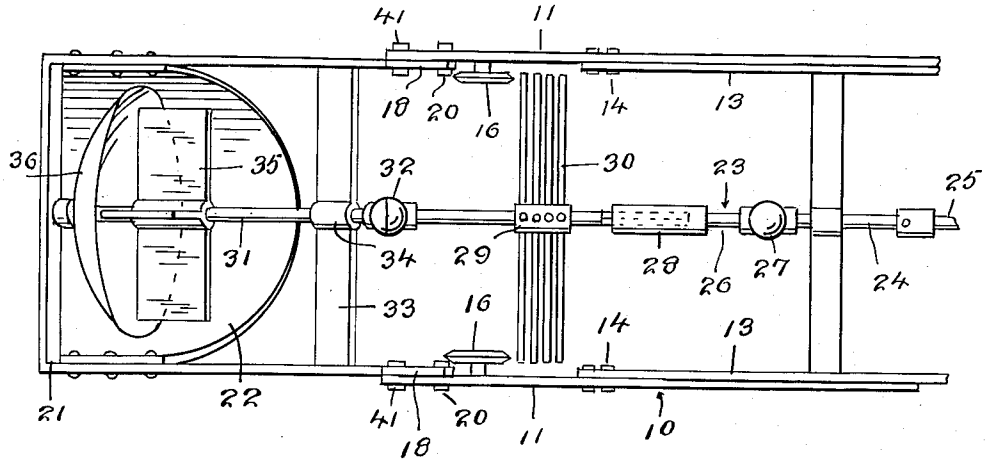
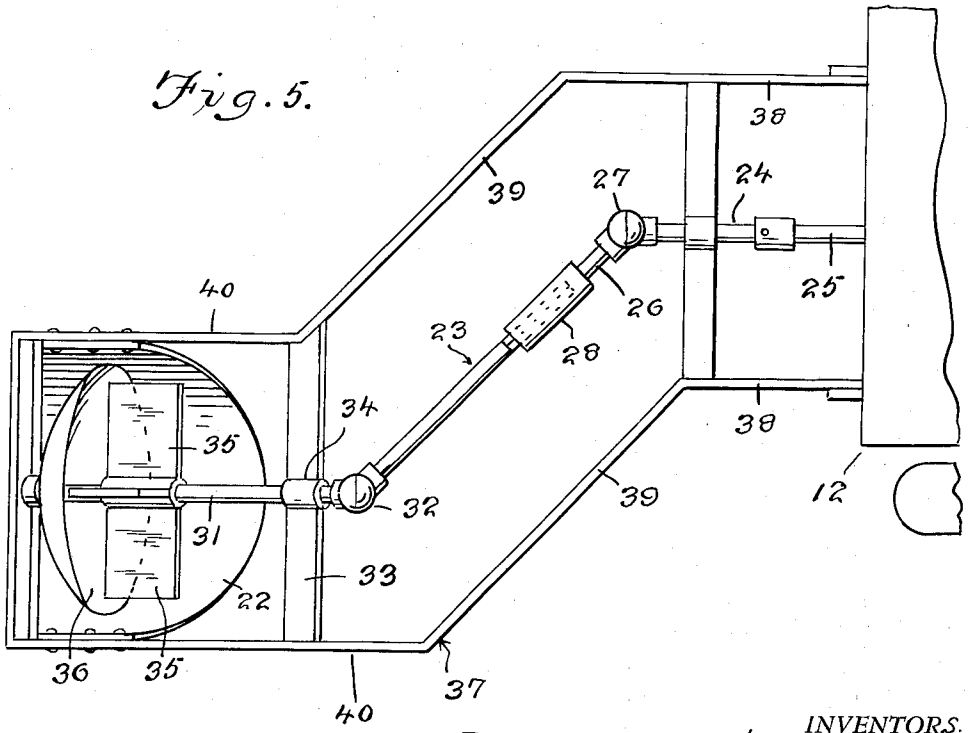


Fig. 5.



INVENTORS.
Peter Nielsen Sillasen
Rosanna Mae Sillasen
BY Victor J. Evans & Co.

ATTORNEYS

United States Patent Office 2,965,985 Patented Dec. 27, 1960

2,965,985

ROTARY WHIRLING DITCHER

Peter Nielsen Sillasen and Rosanna Mae Sillasen, Gooding, Idaho, assignors to John Mays, Gooding, Idaho

Filed Apr. 22, 1959, Ser. No. 808,204

3 Claims. (Cl. 37—92)

This invention relates to a rotary ditcher.

The object of the invention is to provide a rotary ditcher which is adapted to be mounted behind a vehicle such as a tractor whereby the power take-off of the tractor can be used for operating the rotary ditcher so that a trench or the like can be readily provided in the ground or soil being worked.

Another object of the invention is to provide a rotary ditcher which is adapted to be pulled behind a towing vehicle such as a tractor and whereby the vehicle is adapted to operate the ditcher of the present invention, the present invention including a frame which may have its parts arranged directly in alinement with and to the rear of the towing vehicle, or else the frame may include offset portions so that the rotating blades will be offset from the center of the towing vehicle.

A further object of the invention is to provide a rotary whirling ditcher which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same.

Figure 1 is a side elevational view of the rotary whirling ditcher of the present invention.

Figure 2 is a view similar to Figure 1, but with parts broken away and in section.

Figure 3 is a plan view of the assembly of Figures 1 and 2.

Figure 4 is a transverse sectional view illustrating certain constructional details of the present invention.

Figure 5 is a plan view similar to Figure 3, but illustrating a modification.

Referring in detail to the drawings, and more particularly to Figures 1–4 of the drawings, there is shown a rotary whirling ditcher which includes a frame that is indicated generally by the numeral **10**, and the frame **10** includes a pair of spaced parallel beams **11** which are adapted to be connected to a towing vehicle such as the vehicle **12** which may be a tractor or the like. Inclined braces **13** are connected to the beams **11** as at **14**, and the upper front portions of the braces **13** may also be connected to the towing vehicle **12**.

Depending from the rear ends of the beams **11** are vertically disposed legs **15**, and ground engaging wheels **16** are connected to the legs **15**.

There is further provided a pair of spaced parallel arms **17** which have enlarged flanges **18** on their front ends, and the flanges **18** are provided with a plurality of spaced apart apertures **19** whereby a suitable securing element such as the pin **20** can extend through one of the apertures **19** and through an aperture or opening in the rear end of the corresponding beam **11**. The provision of the plurality of apertures **19** permits the arms **17** to be moved to different adjusted positions with respect to the beams **11**.

The numeral **21** indicates a crosspiece which extends between the rear ends of the arms **17** and which is secured thereto or formed integral therewith, Figure 3. A curved shield **22** is suitably fastened to the pair of arms **17**.

The numeral **23** indicates a drive assembly which includes a first shaft section **24** that is adapted to be coupled to the power take-off **25** of the vehicle **12**. A second shaft section **26** is coupled to the first section **24** by means of a universal joint **27**, and the shaft section **26** is provided with a slip joint **28**. A bushing or sleeve **29** is mounted on the shaft section **26**, and a plurality of spaced apart rods or fingers **30** are suitably affixed to the sleeve **29**. The numeral **31** indicates a third shaft section which is connected to the shaft section **26** by means of a universal joint **32**. Mounted on the shaft section **31** is a plurality of radially disposed blades **35**, and an arcuate shovel or scoop **36** is arranged rearwardly of the blades **35**. The numeral **33** indicates a crossbar which extends between the arms **17** and which is secured thereto, and a bearing **34** on the crossbar **33** has the shaft section **31** extending therethrough.

Referring now to Figure 5 of the drawings, there is illustrated a modified frame which is indicated generally by the numeral **37**, and the frame **37** includes first portions **38** which are arranged in alinement with the vehicle **12**, and the frame **37** further includes second portions **39** which are arranged angularly with respect to the first portions **38**. The frame **37** also includes third portions **40** which are arranged angularly with respect to the portions **39**, and the arrangement shown in Figure 5 provides that the blades **35** will be arranged off-center with respect to the vehicle **12**, as for example when a trench is to be dug out of alinement with respect to the towing vehicle.

From the foregoing, it is apparent that there has been provided a rotary whirling ditcher, and in use with the ditcher of the present invention mounted behind a vehicle such as the vehicle **12**, it will be seen that the wheels **16** will engage the ground and help support the assembly **10**. The beams **11** are connected to the arms **17** by means of pins **20** and **41**, and this arrangement permits the beams and arms to be arranged at different angular positions with respect to each other. It will be seen that as the vehicle **12** moves along the ground or other area being worked, and with the power take-off **25** operating, the shaft assembly **23** will be driven. Thus, the shaft section **24** will rotate the shaft section **26** through the medium of the universal joint **27**, and this will cause rotation of the rods **30** which can be used for clearing away weeds, brush or the like, and due to the provision of the universal joint **32**, the shaft section **21** will be rotated which in turn will cause rotation of the blades **25**. The lower front portion of the scoop **22** will dig up the ground and the rotating blades **35** will cause the dirt to be thrown outwardly in conjunction with the shield **36** so that a trench will be formed as the machine moves along the ground.

In the arrangement shown in Figures 1–4, a trench which will be formed which will be disposed in alinement with the central rear portion of the vehicle **12**. In certain instances, as for example as shown in Figure 5, a trench may be desired which is not in alinement with the longitudinal axis of the vehicle **12**, and in Figure 5 due to the provision of the frame **37** which includes the intermediate offset portions **39**, it will be seen that the blades **35** and their associated parts will form a trench which is disposed in an offset position with respect to the longitudinal axis of the vehicle **12**.

The parts can be made of any suitable material and in different shapes or sizes.

Thus, according to the present invention it will be seen that there has been provided a device which is especially suitable for use in forming a ditch, trench or the like, and wherein such a ditch or trench can be used for any desired purpose.

The member **22** functions as a cutter, and the blades **35** will serve to throw the dirt outwardly which has been cut by the member **22**. Suitable braces can be used wherever desired or required. The members **36** helps trim the ditch or trench to the desired size. The rods **30** can be used to knock down weeds, or debris or the like. The rods **30** can function as a weed fork to take care of the larger bunches of debris which may be in the bottom of the ditch. The device may be made in different sizes, and for example it may be used behind a caterpillar tractor, and a straight frame can be used for large ditches, or an offset frame as shown in Figure 5 can be used to provide a ditch behind the right or left rear wheel of the tractor. The present invention is especially suitable for seed ditches.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to an actual practice, if desired.

We claim:

1. In a rotary whirling ditcher, a frame including a pair of spaced parallel beams, inclined braces having their lower ends connected to said beams, legs depending from said beams, wheels connected to said legs, arms having apertured flanges adjustably connected to said beams, a crosspiece extending between the ends of said arms, a curved shield connected to said arms, a drive assembly including a first shaft section, a second shaft section coupled to said first shaft section through the medium of a universal joint, a slip joint on said second shaft section, a sleeve on said second shaft section, a plurality of spaced apart rods affixed to said sleeve, a third shaft section coupled to said second shaft section through the medium of a universal joint, a crossbar extending between said arms and having a bearing thereon for the projection therethrough of said third shaft section, rotary blades on said third shaft section, and an arcuate shield disposed rearwardly of said blades and operably connected to said third shaft section.

2. The structure as defined in claim 1, wherein said first shaft section is adapted to be connected to a power takeoff.

3. The structure as defined in claim 1, wherein the longitudinal axis of said arms is parallel to the longitudinal axis of the beams.

References Cited in the file of this patent

UNITED STATES PATENTS

2,542,474 Burchett ---------- Feb. 20, 1951

FOREIGN PATENTS

8,631 Denmark ---------- July 9, 1906
742,316 Great Britain ---------- Dec. 21, 1955